REMARKS

In the Official Action mailed 28 November 2006, the Examiner reviewed claims 45-55. The Examiner has rejected claims 45, 49, 51-53 and 55 under 35 U.S.C. §112, second paragraph; and has rejected claims 46-55 as being dependent upon a rejected base claim. The Examiner also has commented on the prior art Watson reference, based on the scope of the claims "the best that the Examiner could determine."

Applicant thanks the Examiner for conducting the telephone interviews on 1 February 2007 and 8 February 2008, and summarizes the interviews below.

Applicant has amended claims 45, 47 and 51, cancelled claim 54, and added new claims 58-82. Claims 45-53, 55 and 58-82 are now pending.

The rejections are respectfully traversed below, and reconsideration is requested. Also, Applicant responds to the Examiner's comments on the prior art, and describes support in the specification for the new claims.

Examiner Interview Summary

Examiner Interviews were held by telephone on 1 February 2007 and on 8 February 2007 in connection with the identified application, between the Examiner and the undersigned attorney. In the interview on 1 February 2007, independent claim 45 was reviewed, along with the issues of indefiniteness. In addition, the distinction of the claim over the prior art Watson reference was discussed. The Examiner agreed to consider an amendment of claim 45 by incorporation of the subject matter of claim 54 for the purposes reaching agreement about allowance. It was agreed to review the claim in a second interview on 8 February 2007.

In the interview on 8 February 2007, the Examiner stated that the problems with indefiniteness of independent claim 45 were not overcome by the proposed amendment, and that she had identified additional areas of alleged indefiniteness not previously outlined in Official Actions. The Examiner requested a written response to the outstanding action, for further consideration.

Rejection of Claims 45, 49, 51-53 and 55 under 35 U.S.C. §112, second paragraph

The Examiner has rejected claims 45, 49, 51-53 and 55 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In connection with independent claim 45, the Examiner was indefinite "due to the combining of two separate statutory classes of invention in a single claim." The Examiner suggested that the preamble the claim be amended to recite "A computer implemented method..." This comment suggests that the Examiner has made a mistake. The amendment changing the preamble to read as suggested had already been made in response to the first time that this basis for rejection was presented.

Applicant requests reconsideration. The rejection on this basis arises from the ruling in the *IPXL Holdings* case, in which the Federal Circuit found a claim indefinite because it purported to be a system claim, but included a step requiring the system to be used in a certain way. *IPXL Holdings. LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 77 USPQ2d 1140, (Fed. Cir. 2005). The court found the claim was indefinite, because it was not clear about whether one infringed the claim by merely having a system that was capable of the use as recited, or by actually performing the step using the system as recited. The issue of *IPXL Holdings* is not found in the present claims. The present claim 45 is unambiguously a method that requires using a computer to accomplish the method. There is no ambiguity about whether merely possessing a computer capable of practicing the method would constitute infringement.

An issue similar to that raised by the Examiner was considered by the U.S. District Court for the Northern District of California recently in *Collaboration Properties, Inc. v Tandberg ASA*, 81 USPQ2d 1530 (N. D. Ca, 2006). The Court's discussion in the *Collaboration Properties* case is instructive, and reads as follows:

> Tandberg's argument raises a very basic question about the proper drafting of method claims: can a claimed method be limited to performance on a particular type of apparatus? Both common sense and a cursory inspection of relevant authorities demonstrate that the answer is "yes."
>
> Beginning with common sense, in order to be useful, a patented method must at a minimum be capable of being carried out in the physical world. Methods, ultimately, involve the use of and operate on physical objects. The statutory definition of a "process" is precisely in alignment with this common sense understanding: a process is defined as a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." 35 U.S.C. § 100(b) (emphasis added). Thus a "process," as contemplated under the patent laws, expressly includes the use of a machine.

Indeed, the regime contemplated by Tandberg's argument-method claims divorced from any recitation of a specific apparatus or piece of machinery which can be used to carry out the method-has long been regarded as deeply problematic. In *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 14 L. Ed. 601 (1853), the famous "Telegraph Case," the Supreme Court rejected Samuel Morse's claim covering the use of electromagnetism for communication at a distance precisely because the claimed method strayed too far beyond the apparatus which Morse had actually invented. Morse claimed "the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances." The Court ruled the claim to be invalid:

> But Professor Morse has not discovered, that the electric or galvanic current will always print at a distance, no matter what may be the form of the machinery or mechanical contrivances through which it passes. You may use electro-magnetism as a motive power, and yet not produce the described effect, that is, print at a distance intelligible marks or signs. To produce that effect, it must be combined with, and passed through, and operate upon, certain complicated and delicate machinery, adjusted and arranged upon philosophical principles, and prepared by the highest mechanical skill.

Id. at 117. As this passage makes plain, a method claim may be invalid for lack of enablement if it is divorced from devices known to one of ordinary skill in the art.

In *Cochrane v. Deener*, 94 U.S. (4 Otto) 780, 24 L. Ed. 139, 1877 Dec. Comm'r Pat. 242 (1876) the Supreme Court again considered the possibility of a process claim independent of particular physical devices:

> That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. If one of the steps of a process be that a certain substance is to be reduced to a powder, it may not be at all material what instrument or machinery is used to effect that object, whether a hammer, a pestle and mortar, or a mill. Either may be pointed out; but if the

> patent is not confined to that particular tool or machine, the use of the others would be an infringement, the general process being the same.

Id. at 787-88 (emphasis added). As the emphasized language indicates, the salient point in *Cochrane* is that while a process claim may recite a particular device used to perform the process, it need not do so in all cases in order to be valid. *Cochrane* also makes clear that "instrument[s] or machinery" recited in a method claim may properly serve as claim limitations. If a method patent expressly recites the "instrument or machinery" used to carry out the method, then the claim will be limited to the performance of the method using that machinery. This understanding has remained unchanged to the present day. See, e.g., *Diamond v. Diehr*, 450 U.S. 175, 182-84, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) (quoting *Cochrane*); *id.* at 185 (upholding the validity of a method claim requiring the use of a "programmed digital computer.").

Courts have continued to struggle with the extent to which a method claim may be divorced from a specific physical context. The reluctance to allow patents on abstract methods provided a major stumbling block to the extension of patent protection to software and business methods. See *In re Schrader*, 22 F.3d 290, 293-94 (Fed. Cir. 1994) (rejecting software method claims which failed to recite the data structures which were manipulated during the course of the claimed method). Only in recent years has the liberal standard for patentable subject matter governing software and business method patents become clear. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093, 119 S. Ct. 851, 142 L. Ed. 2d 704 (1999) ("Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not 'useful.' From a practical standpoint, this means that to be patentable an algorithm must be applied in a 'useful' way."); *AT&T Corp. v. Excel Communs., Inc.*, 172 F.3d 1352, 1357 (Fed. Cir. 1999), *cert. denied*, 528 U.S. 946, 120 S. Ct. 368, 145 L. Ed. 2d 284 (1999) (citing State Street Bank). The Supreme Court's reluctance to allow patents on abstract methods persists to the current day. See *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842, 164 L. Ed. 2d 641 (2006) (Kennedy, J., concurring) (noting the "potential vagueness and suspect validity" of business method patents).

> In light of these cases, which consider the outer limits of what constitutes a patentable process, Tandberg's argument that section 112 precludes method claims from reciting system elements is untenable. There is no ambiguity inherent in claiming a method which involves the use of specific physical objects; indeed, method claims reciting the use of particular devices are the rule rather than the exception. If an inventor claims "The method of driving a nail using a hammer" and the accused infringer drives nails using a rock, there is no doubt that the accused infringer does not literally infringe the claim.
>
> *IPXL Holdings* says nothing to the contrary. ...

(81 USPQ2d at 1533-1534)

Therefore, Applicant submits that the claims presented here are clearly limited to a method using the instrumentalities recited, and not to the instrumentalities themselves.

Applicant has further amended independent claim 45 as set forth above to more clearly recite the invention as a computer implemented method executed using server-side data processing resources. Each mention of the server-side data processing resources in the body of the claim merely modifies the method step by identifying the instrumentality in which the step is performed. Accordingly, reconsideration of the rejection of claim 45 is requested in view of the amendment.

The Examiner commented that claims 49, 51 and 55 are unclear because they recite a method in which "the body of the claim discusses a system... and subsequently the claim deals with the specifics of the system." The Examiner stated that claims 51-53 and 55 "have a similar problem." Applicant respectfully requests reconsideration. These claims do not recite any system features whatsoever. Rather they recite steps of establishing or using communication sessions in a computer implemented method. Accordingly, Applicant respectfully requests reconsideration in view of the amendment to independent claim 45 from which they depend.

The Examiner also stated that dependent claims 46-55 were rejected because of their dependency on a rejected base claim. Claim 54 has been cancelled. Applicant submits that the base claim is allowable in view of the amendments, and requests reconsideration of the rejection of these claims because of their dependency on claim 45.

Accordingly, reconsideration of the rejection of claims 45-53 and 55 as amended is respectfully requested.

Comments on "Response to Arguments"

The section of the Official Action entitled "Response to Arguments" identifies four issues identified as Issue No. 1, Issue No. 2, Issue No. 3 and Issue No. 4. Applicant notes that the Examiner is responding to comments submitted in the response filed on 24 May 2006, rather than in the latest response, in which no prior art rejections were at issue. Nonetheless, Applicant addresses each of the identified issues in this section.

Issue No. 1: The Examiner takes the position that the step of creating an account in the Watson reference corresponds with the step of claim 45 reading "establishing an authentication record..." Further, the Examiner takes the position that "when an account is set up, a record is maintained of the account with the signature of the account holder." Applicant points out that the claim has been amended to clarify that the "authentication record" is established in memory and includes "... a predicted transaction amount, a transaction time parameter, and an authenticated transaction signature..." These steps do not read on establishing an account and storing a written signature of an account holder as relied upon by the Examiner in these comments. It is believed that upon review of the claims as amended, these comments will be withdrawn.

Issue No. 2: Applicant has taken the position that Watson does not mention an authentication process, does not mention problems associated with authentication, and does not describe the concept of a transaction signature as described and claimed in the present application. The Examiner refers to the authorizing agent 112 described in Watson as corresponding to an authentication process. However, this is clearly mistaken. Authorization to take particular steps, such as is done by the "authorizing agent 112," is only done after an account holder has been sufficiently authenticated. In Watson, there is no computer implemented method for authentication described. The authorizing agent merely makes sure that the user of a credit card is using it within the parameters authorized for that cardholder. To repeat, this has nothing to do with authentication, which would be used to confirm the identity of a cardholder.

In addition, the Examiner states in connection with the teaching of Watson that, "It is interpreted although not expressly disclosed that the account parameters include a transaction signature and authentication." This reliance by the Examiner on inherency of Watson is believed incorrect. There is no basis for assuming that the transaction signature, or any computer implemented authentication, as recited in claim 45 is inherent in a system like that of Watson.

Issue No. 3: The Examiner takes the position that "Anderson discloses verification steps which is interpreted as a form of matching the signature (record)." This statement is a response to Applicant's position that Anderson does not teach the step that requires processing of the authentication record and the authorization record to match the components of the records recited in claim 45. Anderson teaches a paper check process. There is no computer implemented authentication record and there is no computer implemented authorization record in Anderson. Applicant believes that upon reconsideration of the claims as amended, these issues will be moot.

Issue No. 4: The Examiner takes the position that the step of "establishing an authentication record" as recited in dependent claim 49 has not been given patentable weight because it occurs in the preamble. This position by the Examiner is clearly mistaken. The step of establishing an authentication record appears in independent claim 45 in the body of the claim. It is mentioned in the preamble of dependent claim 49 merely for the purposes of clarifying that claim 49 modifies that step. Accordingly, reconsideration of this issue is requested, and it is further believed that the issues raised will be moot in view of the amendments.

New Claims 58-82

New claims 58-82 are added to more specifically recite the process of claim 46, and add significant features of the process supported in the specification as filed. The new claims include three sequences of claims in different statutory classes, including a method (claims 58-66), a system (claims 67-74) and an article of manufacture (claims 75-82). The claims recite essentially similar limitations and should be examined together with claim 46.

The method claims 58-66 are reproduced below with reference numerals inserted into the claims to identify corresponding disclosure in the specification, sufficient to establish that such claims are supported by the specification. In the dependent claims that do not include reference numerals, it is believed that the support is clear in light of that provided for the independent claim.

Claims 67-74 and 75-82 are supported in the same way as the method claims 58-66, and the support for the method claims is incorporated by reference for the purposes of establishing support for these claims.

58. A method for managing financial transactions using a computer system arranged for communication with remote devices (401-405) using communication lines, comprising:

performing a plurality of authentication processes in response to initiations of respective sessions with the computer system by data communications from remote devices, for predicted transactions having predicted transaction amounts and predicted transaction time out intervals by particular account holders, the authentication processes respectively characterized by the steps of

generating in the computer system requests (504, 506, 508, 509) for input for the corresponding predicted transaction, and receiving in the computer responses to the requests for input from one of said remote devices, wherein said responses to the requests include an identifier of the account (ACC #) used for authenticating the account, at least one factor (ID_PIN) unique to the account holder for authenticating the account holder and at least two factors related to the predicted transaction including a transaction specific factor (W/D)$ and a transaction type identifier (T_PIN) unique to the account holder used for authenticating the predicted transaction;

storing (510) a first time-stamped record (510, 907) in memory including the identifier of the account (ACC #), the at least one factor (ID_PIN) unique to the account holder, the transaction specific factor (W/D)$, the transaction type identifier (T_PIN) and a time parameter (TX1) as a part of or as data associated with the first record in memory; and

producing a transaction signature ((W/D)#_GEN, 511) as a function of the identifier of the account (ACC #), the at least one factor (ID_PIN) unique to the account holder, the transaction specific factor (W/D)$, the transaction type identifier (T_PIN) and the time parameter (TX1), for presentation upon execution of the predicted transaction upon authenticating the account, the account holder and the predicted transaction using said responses, associating the transaction signature with the first time-stamped record and transmitting the transaction signature to one of said remote devices associated with the particular account holder;

performing, in the computer system, a plurality of authorization processes for particular transactions in response to authorization requests from parties to actual transactions, the authorization process for a particular transaction characterized by the steps of

receiving (704) an account identifier (ACC#), a presented transaction signature ((W/D)#_GEN, 706), and an actual transaction amount (T-AM 709) at an actual transaction time (TX2) associated with the authorization request for the particular transaction having a transaction type from one of said remote devices;

storing a second time-stamped record (906) in memory for the authorization request for the particular transaction, the record including the received account identifier (ACC#), the presented transaction signature ((W/D)#_GEN), the actual transaction amount (T-AM) and the actual transaction time (TX2);

processing the second time-stamped record, in response to one of said first time-stamped records with a matching account identifier (502), to verify that the presented transaction signature matches the transaction signature associated with said one of said first records (703), the actual transaction amount matches the predicted transaction amount associated with said one of said first time-stamped records (707), the actual transaction type matches the transaction type associated with said one of said first records and the actual transaction time (TX2) is within the predicted transaction time out interval (901); and

transmitting authorization signals upon successful authorization (306) to one of said remote devices associated with said particular transaction; and

performing, in the computer system, a plurality of accounting processes (307, 707) for respective transactions subject of authorization processes, including reconciling the predicted transaction amounts and the actual transaction amounts for each transaction of the particular account holders.

59. The method of claim 58, including:

storing the predicted transaction type identifier, the predicted transaction amount, and the transaction signature for a predicted transaction in a database in said memory.

60. The method of claim 58, including storing a predicted transaction time out interval parameter in the database.

61. The method of claim 58, including setting up a time out interval between the authentication process and the authorization process and after creation of a first time-stamped record for a particular account, monitoring (901) the memory to detect creation of a second time-stamped record having a matching account identifier and attempting said authorization process until one of expiration of the time out interval and success of the authorization process.

62. The method of claim 58, wherein the authentication process is further characterized by executing a process (408) in the computer system prompting the particular account holder via the communication lines to supply to the computer system a transaction specific code based on or equal to a combination of alphanumeric characters at certain randomly chosen alphanumeric character positions in a password, wherein the combination does not include all of the alphanumeric characters in the password.

63. The method of claim 58, wherein the authorization process includes:

at the server, performing a plurality of authorization processes for particular transactions in response to authorization requests from parties to actual transactions characterized by prioritizing pairs of first time-stamped records and second time-stamped records with matching account identifiers according to their time stamps and time out interval parameters.

64. The method of claim 58, including accepting identification of the party at the server.

65. The method of claim 58, wherein the authorization process operates without identification of the particular account holder to the party.

66. The method of claim 58, wherein the authorization process operates with identification of the particular account holder to the party.

Comments on the present invention:

The present invention provides a computer-implemented transaction processing method that addresses at least three problems of prior art financial transaction systems. First, the present invention provides a protocol for preventing fraud. Second, the present invention provides a protocol to protect account holder privacy. Third, the present invention provides an architecture that is scalable for implementations handling large numbers of concurrent transactions.

The problem of fraud:

According to the prior art including Watson and Anderson et al., computer-driven transactions in which a financial institution server authorizes a transaction with a vendor omit authentication of the account holder, and instead rely upon the vendor to authenticate the account holder. Thus, the vendor obtains both the account number and personal identification information about the account holder. The possession by the vendor of this information about the account holder creates a security loophole, and engenders fraud. As is well known, a person having an account number and personal identification information about the account holder can easily execute fraudulent transactions. In the system of the present invention, the techniques and protocols are provided for execution of transactions for which the account number and personal identification information about the account holder are not sufficient for obtaining an authorized transaction. The present invention provides a data processing system which makes access to the account number and personal identification information insufficient to conduct a fraudulent transaction, using technological authentication, authorization and accounting. So even if this information is somehow stolen, it cannot be fraudulently used in the system claimed herein.

The problem of privacy:

Also according to the prior art including Watson and Anderson et al., credit and debit card transactions require that the card holder provide personal identity information to the vendor, including personal identification credentials such as name, address, signature and sometimes identification numbers like a driver's license number. Thus, the vendor gains possession of the data that compromises the privacy of the transaction. The vendor also obtains information about

the account holder which the account holder may not want to be publicly known. The present invention provides a data processing method which closes this privacy loophole of the prior art, using technological authentication, authorization and accounting that make disclosure of personal identification information to the vendor unnecessary.

The problem of scalability:

The present invention also provides a scalable data processing system architecture, based on the creation and processing of authentication and authorization records, that is capable of efficiently handling large numbers of transactions occurring randomly in time. There is no similar architecture presented in the prior art.

CONCLUSION

It is respectfully submitted that this application is now in condition for allowance, and such action is requested.

The Commissioner is hereby authorized to charge any fee determined to be due in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (AIDT 1000-1).

Respectfully submitted,

Dated: 16 February 2007

Mark A. Haynes, Reg. No. 30,846

HAYNES BEFFEL & WOLFELD LLP
P.O. Box 366
Half Moon Bay, CA 94019
(650) 712-0340 phone
(650) 712-0263 fax